FIG.1

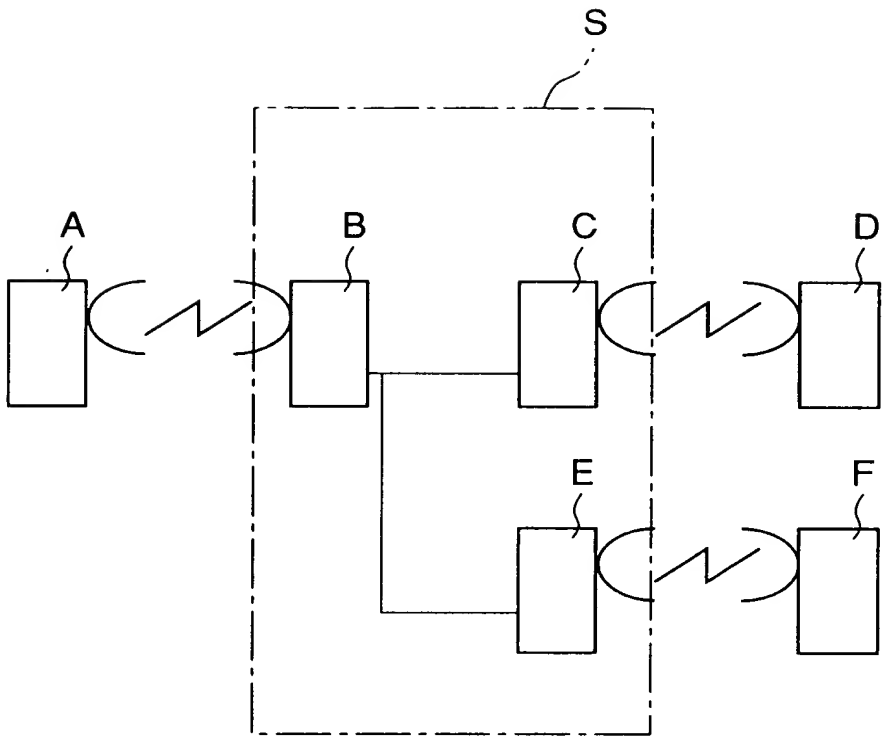
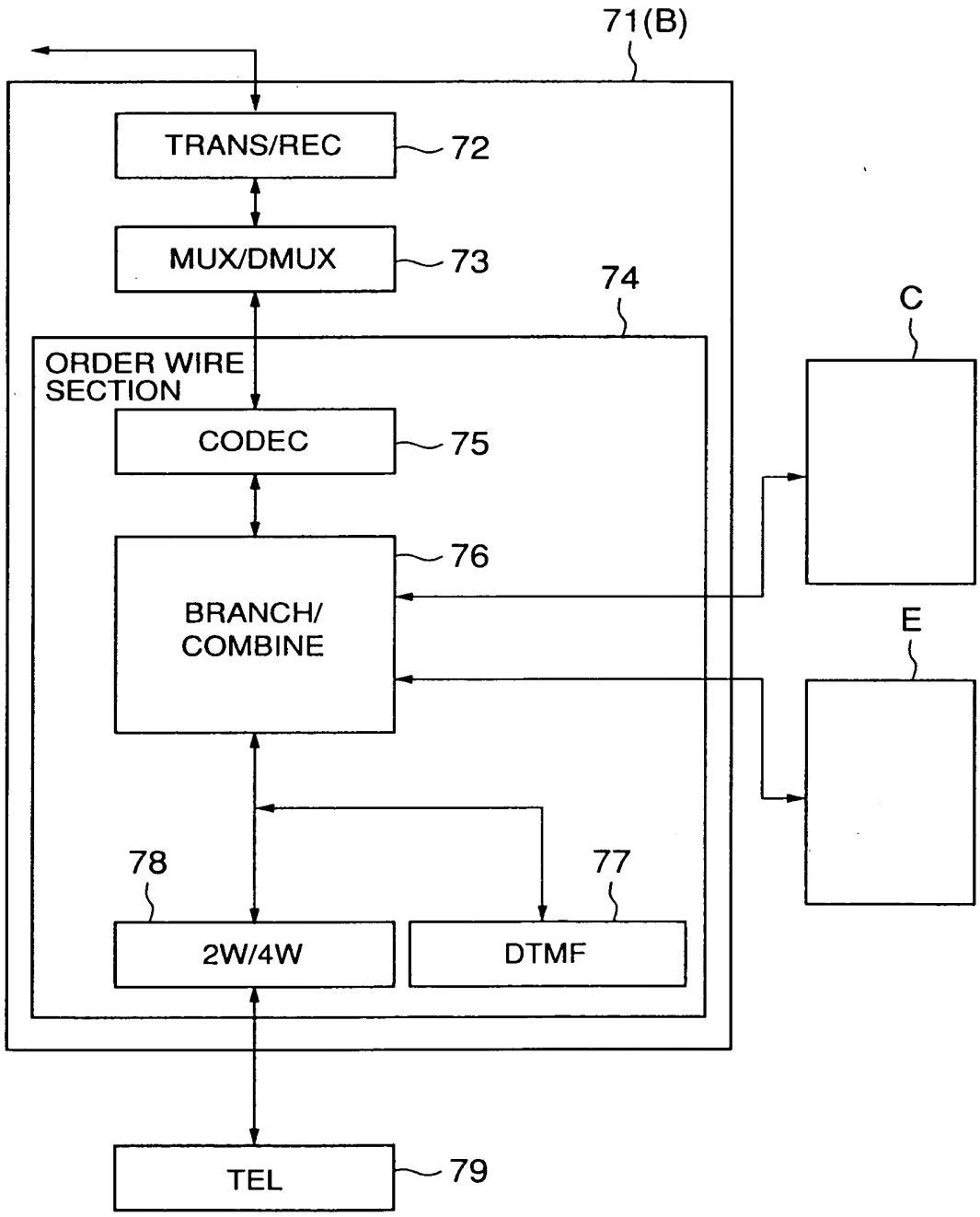


FIG.2


71(B)
TRANS/REC
72
MUX/DMUX
73
74
ORDER WIRE SECTION
CODEC
75
76
BRANCH/ COMBINE
C
E
78
77
2W/4W
DTMF
TEL
79

006260 "5827E960

FIG.3

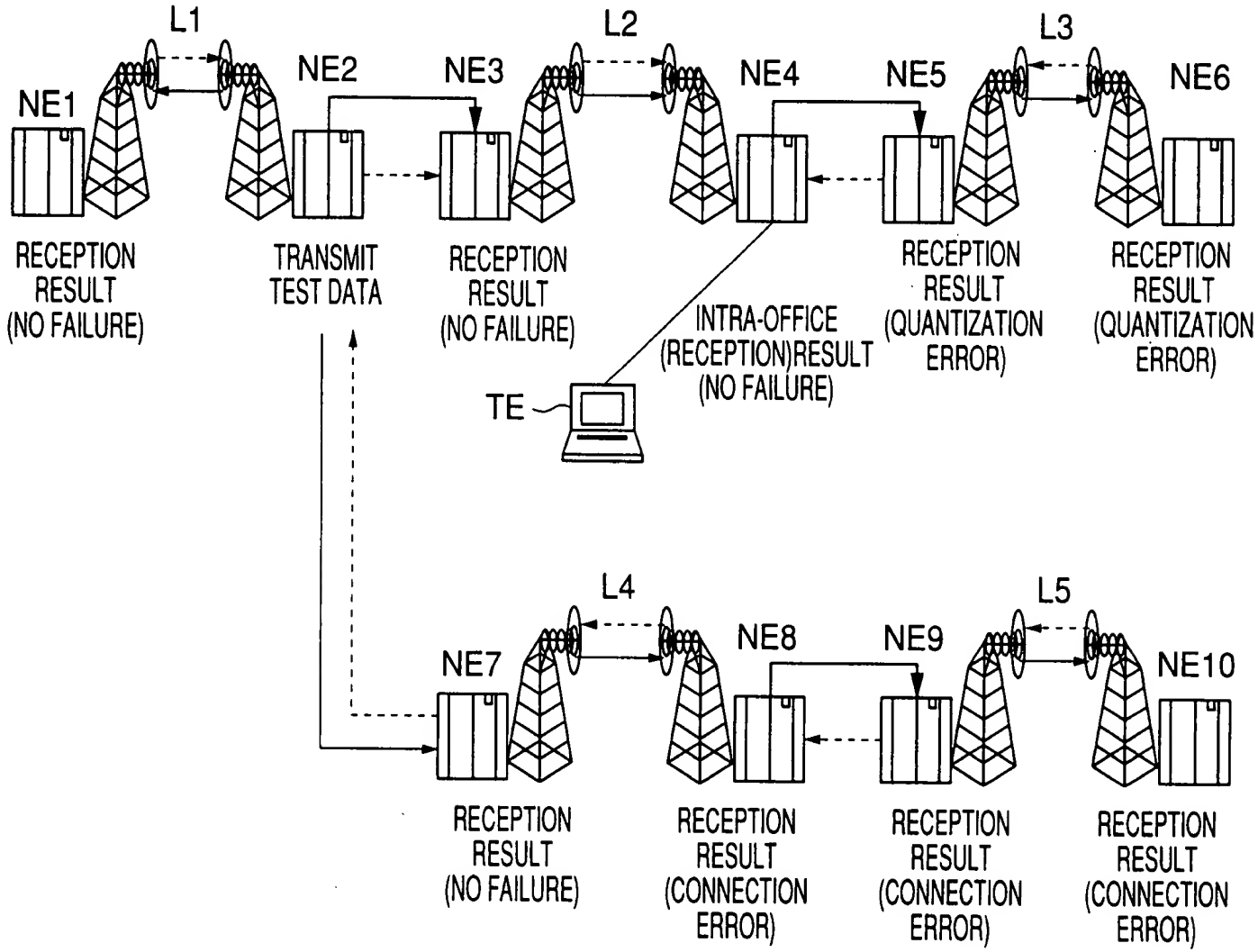


FIG.4

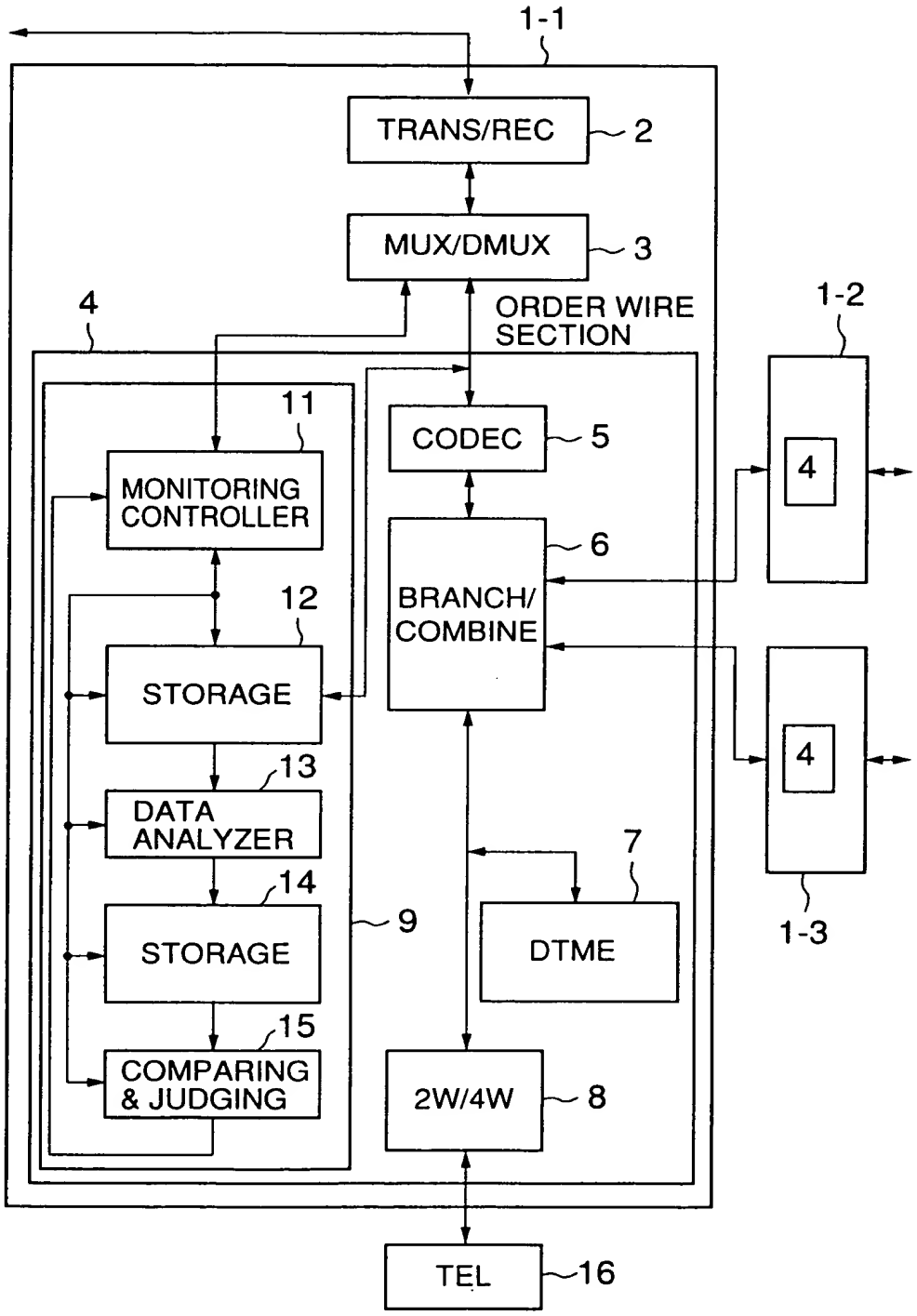

1-1
TRANS/REC
2
MUX/DMUX
3
4
ORDER WIRE SECTION
1-2
11
CODEC
5
MONITORING CONTROLLER
4
6
12
BRANCH/ COMBINE
STORAGE
4
13
DATA ANALYZER
7
14
STORAGE
9
DTME
1-3
15
COMPARING & JUDGING
2W/4W
8
TEL
16

FIG.5

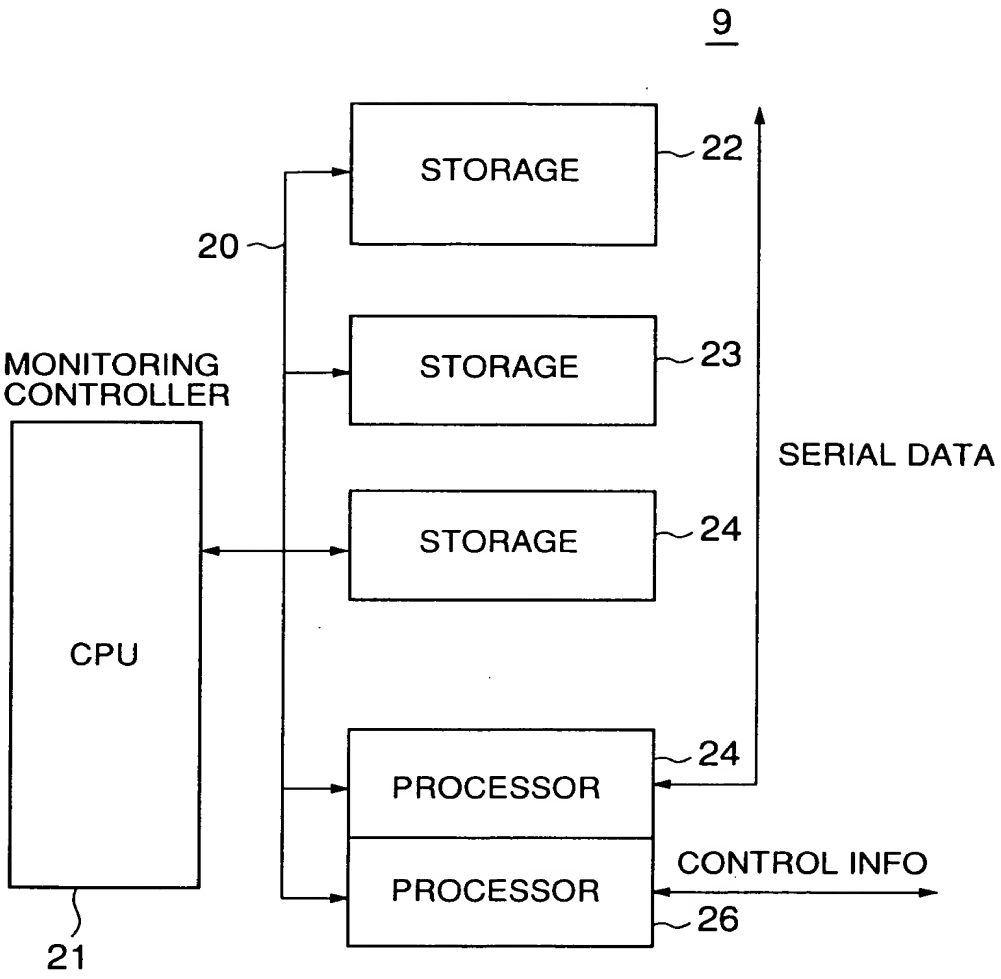

9
STORAGE
22
20
STORAGE
23
MONITORING CONTROLLER
SERIAL DATA
STORAGE
24
CPU
PROCESSOR
24
PROCESSOR
CONTROL INFO
26
21

FIG.6

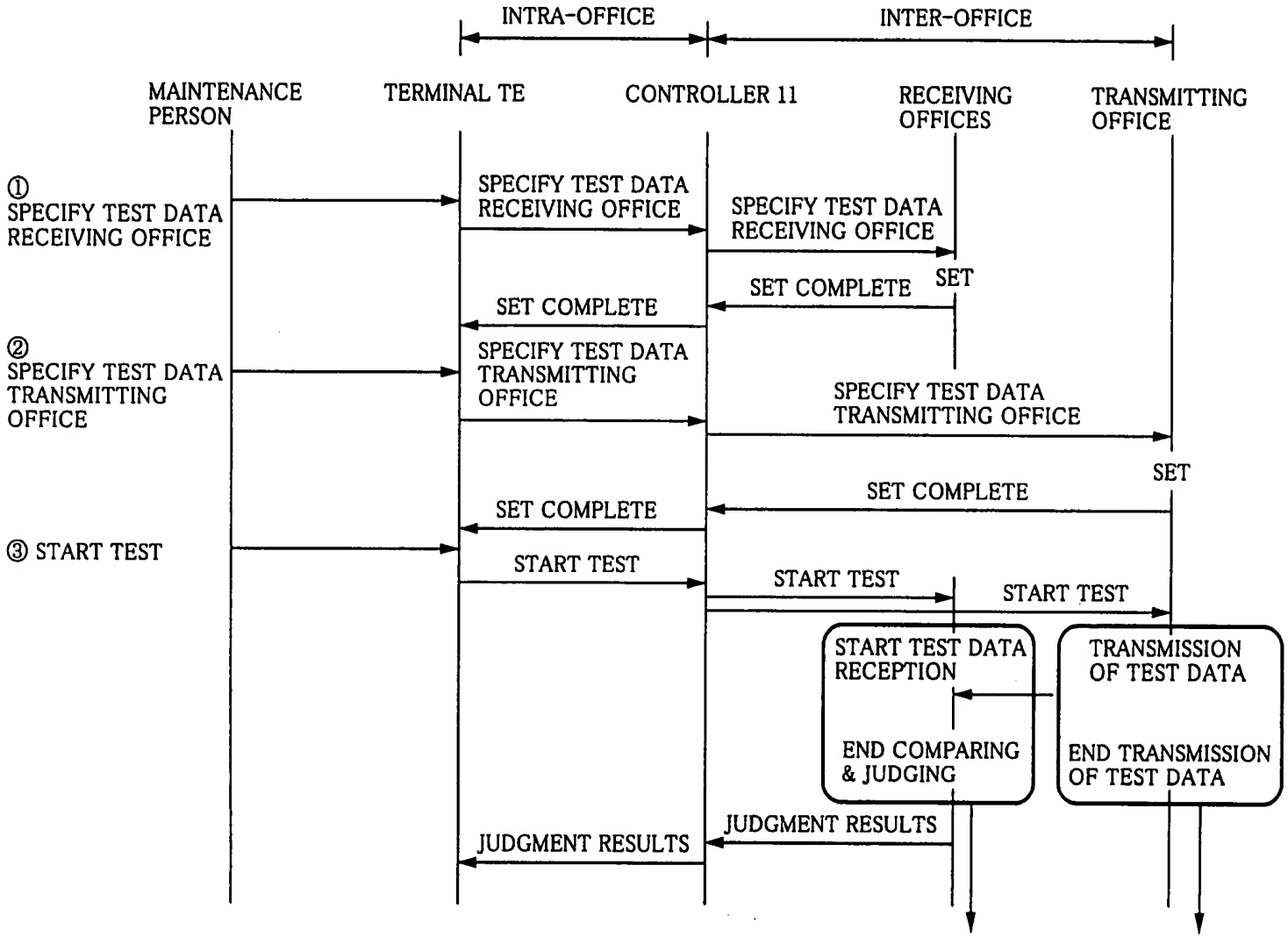

INTRA-OFFICE
INTER-OFFICE
MAINTENANCE PERSON
TERMINAL TE
CONTROLLER 11
RECEIVING OFFICES
TRANSMITTING OFFICE
① SPECIFY TEST DATA RECEIVING OFFICE
SPECIFY TEST DATA RECEIVING OFFICE
SPECIFY TEST DATA RECEIVING OFFICE
SET
SET COMPLETE
SET COMPLETE
② SPECIFY TEST DATA TRANSMITTING OFFICE
SPECIFY TEST DATA TRANSMITTING OFFICE
SPECIFY TEST DATA TRANSMITTING OFFICE
SET
SET COMPLETE
SET COMPLETE
③ START TEST
START TEST
START TEST
START TEST
START TEST DATA RECEPTION
TRANSMISSION OF TEST DATA
END COMPARING & JUDGING
END TRANSMISSION OF TEST DATA
JUDGMENT RESULTS
JUDGMENT RESULTS

FIG.7

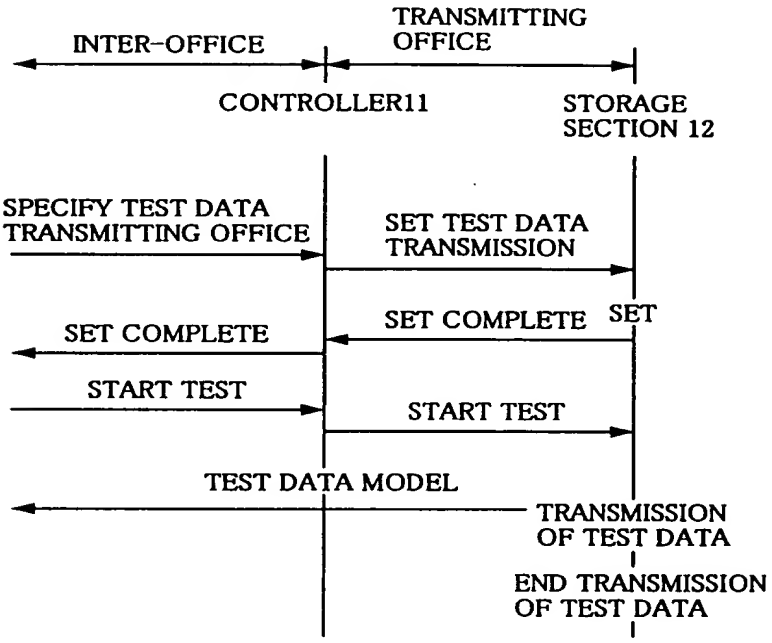

INTER-OFFICE
TRANSMITTING OFFICE
CONTROLLER11
STORAGE SECTION 12
SPECIFY TEST DATA TRANSMITTING OFFICE
SET TEST DATA TRANSMISSION
SET COMPLETE
SET COMPLETE
SET
START TEST
START TEST
TEST DATA MODEL
TRANSMISSION OF TEST DATA
END TRANSMISSION OF TEST DATA

FIG.8

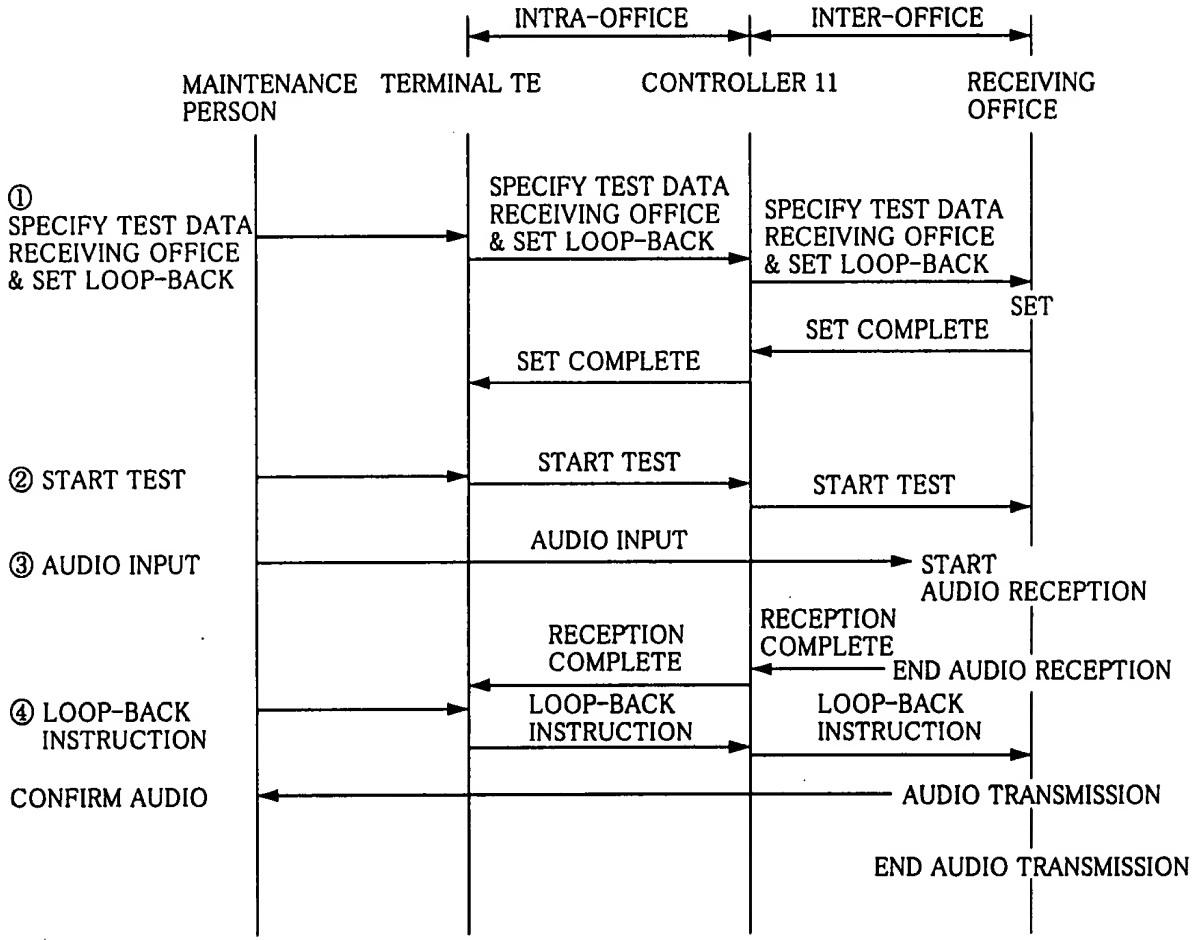

INTRA-OFFICE
INTER-OFFICE
MAINTENANCE PERSON
TERMINAL TE
CONTROLLER 11
RECEIVING OFFICE
① SPECIFY TEST DATA RECEIVING OFFICE & SET LOOP-BACK
SPECIFY TEST DATA RECEIVING OFFICE & SET LOOP-BACK
SPECIFY TEST DATA RECEIVING OFFICE & SET LOOP-BACK
SET
SET COMPLETE
SET COMPLETE
② START TEST
START TEST
START TEST
③ AUDIO INPUT
AUDIO INPUT
START AUDIO RECEPTION
RECEPTION COMPLETE
RECEPTION COMPLETE
END AUDIO RECEPTION
④ LOOP-BACK INSTRUCTION
LOOP-BACK INSTRUCTION
LOOP-BACK INSTRUCTION
CONFIRM AUDIO
AUDIO TRANSMISSION
END AUDIO TRANSMISSION

FIG.9

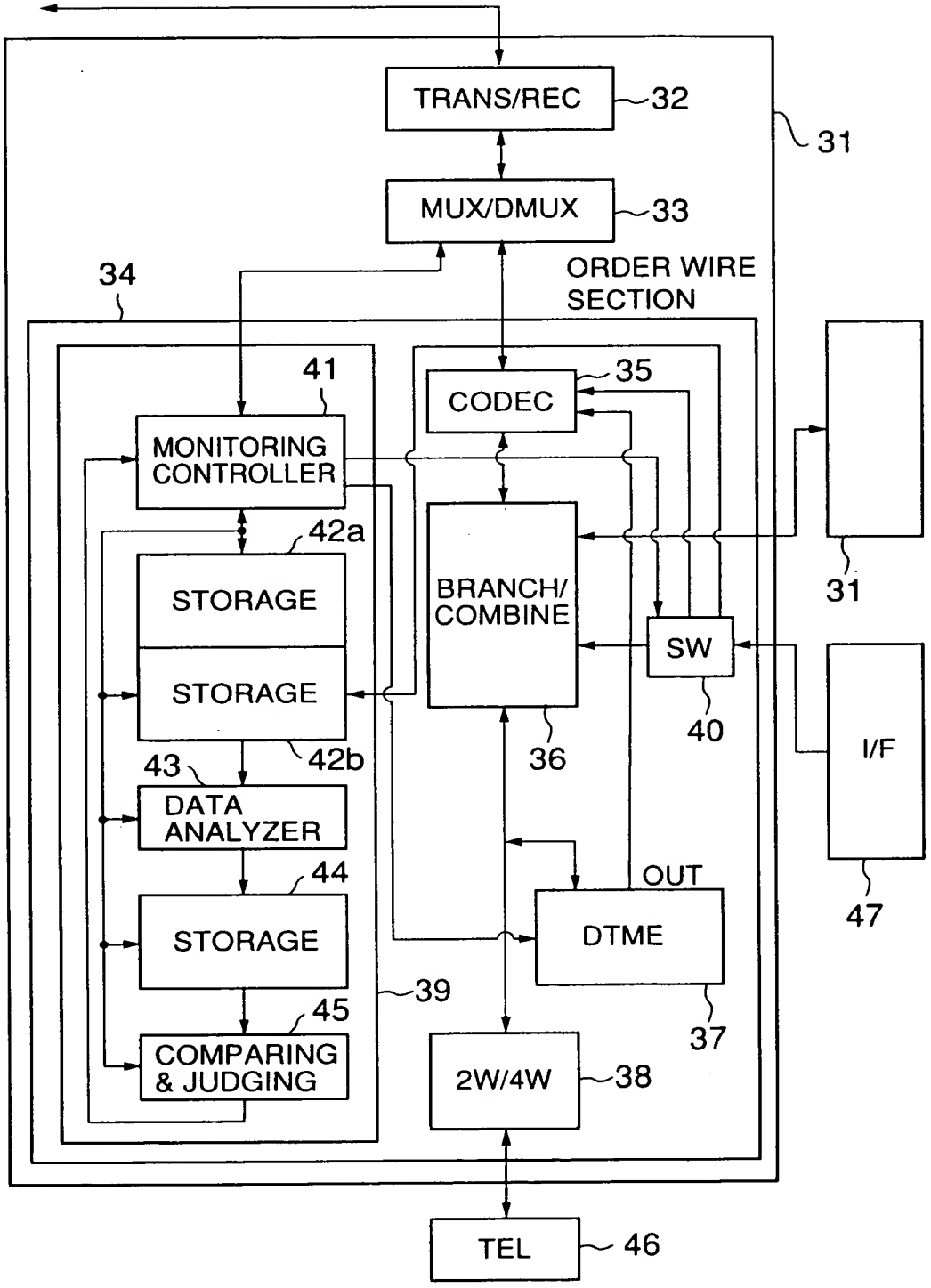

TRANS/REC
32
31
MUX/DMUX
33
34
ORDER WIRE SECTION
41
35
CODEC
MONITORING CONTROLLER
42a
STORAGE
STORAGE
42b
BRANCH/ COMBINE
SW
40
31
36
I/F
47
43
DATA ANALYZER
44
STORAGE
OUT
DTME
37
39
45
COMPARING & JUDGING
2W/4W
38
TEL
46

FIG.10

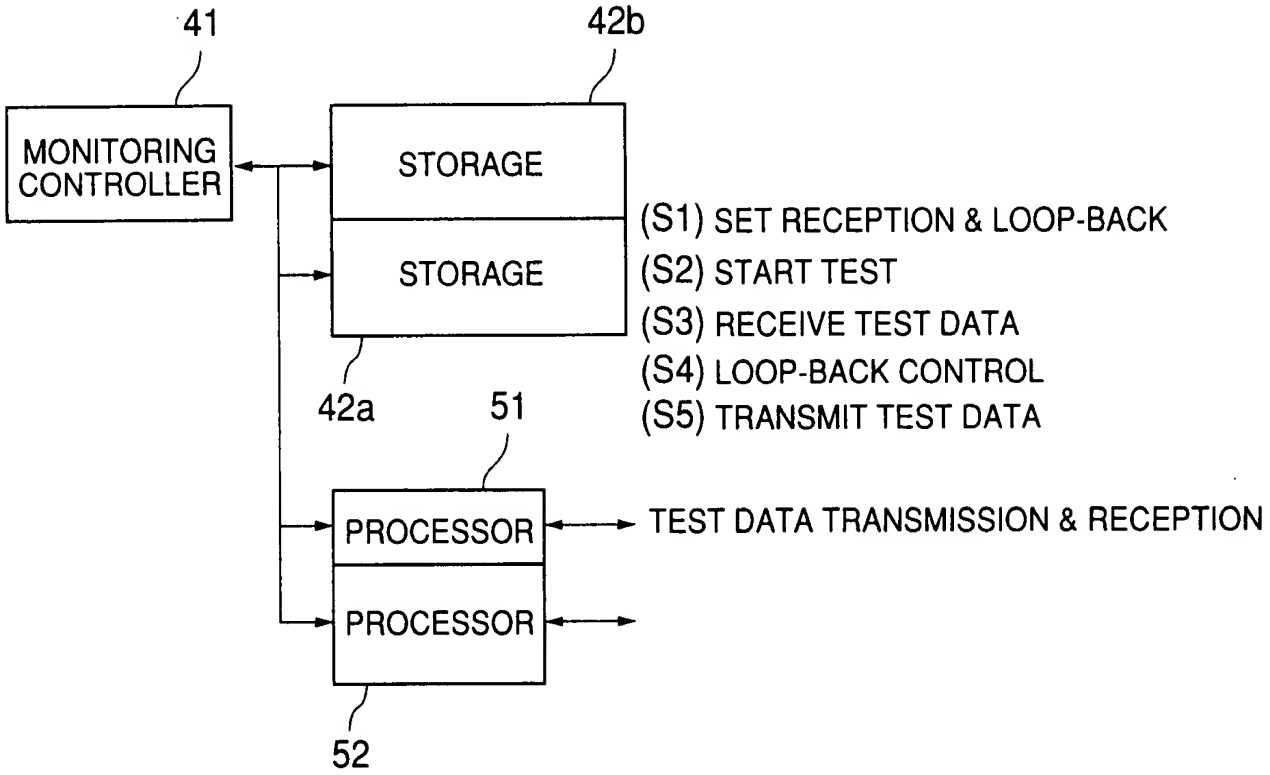

41
42b
MONITORING CONTROLLER
STORAGE
STORAGE
(S1) SET RECEPTION & LOOP-BACK
(S2) START TEST
(S3) RECEIVE TEST DATA
(S4) LOOP-BACK CONTROL
(S5) TRANSMIT TEST DATA
42a
51
PROCESSOR
PROCESSOR
TEST DATA TRANSMISSION & RECEPTION
52

FIG.11

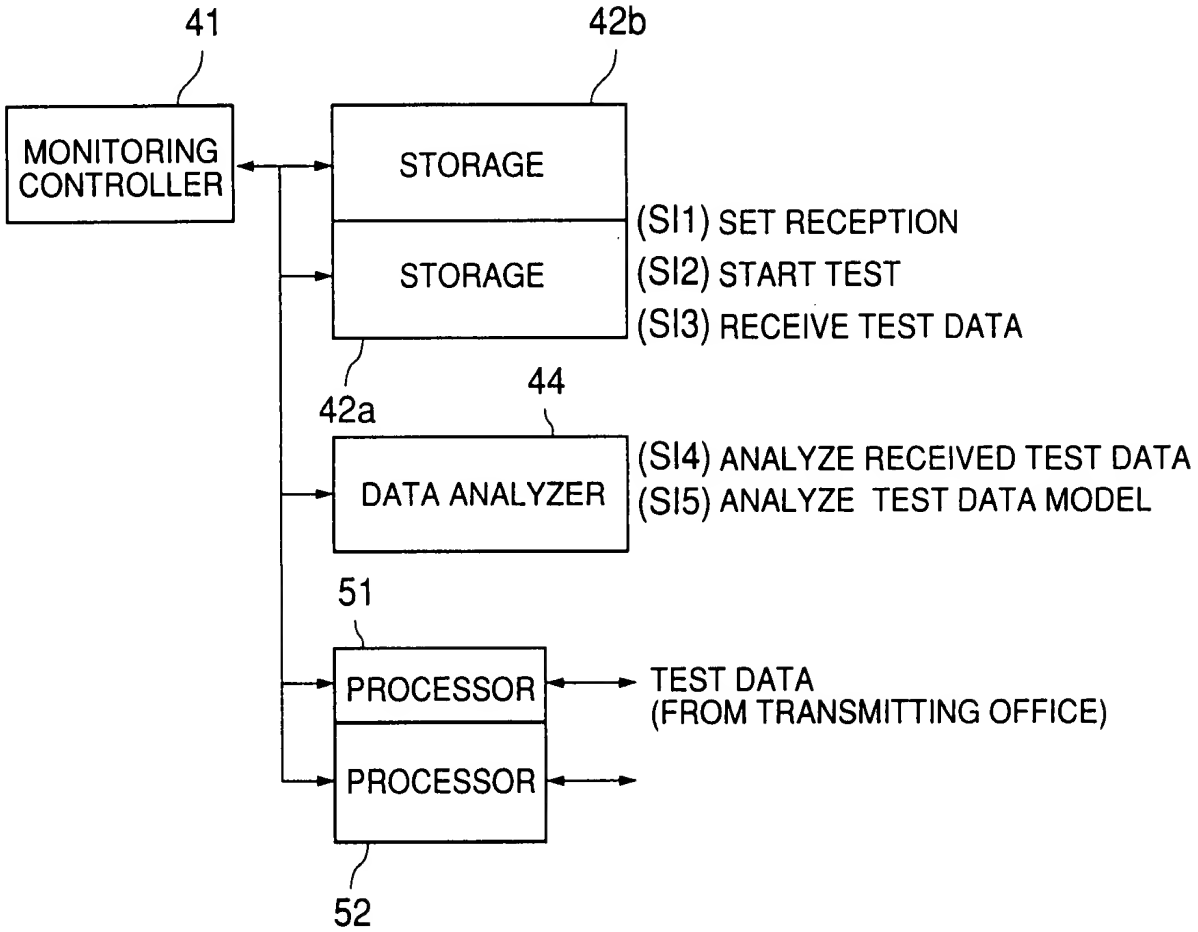

41
42b
MONITORING CONTROLLER
STORAGE
STORAGE
(SI1) SET RECEPTION
(SI2) START TEST
(SI3) RECEIVE TEST DATA
42a
44
DATA ANALYZER
(SI4) ANALYZE RECEIVED TEST DATA
(SI5) ANALYZE TEST DATA MODEL
51
PROCESSOR
PROCESSOR
TEST DATA
(FROM TRANSMITTING OFFICE)
52

FIG.12

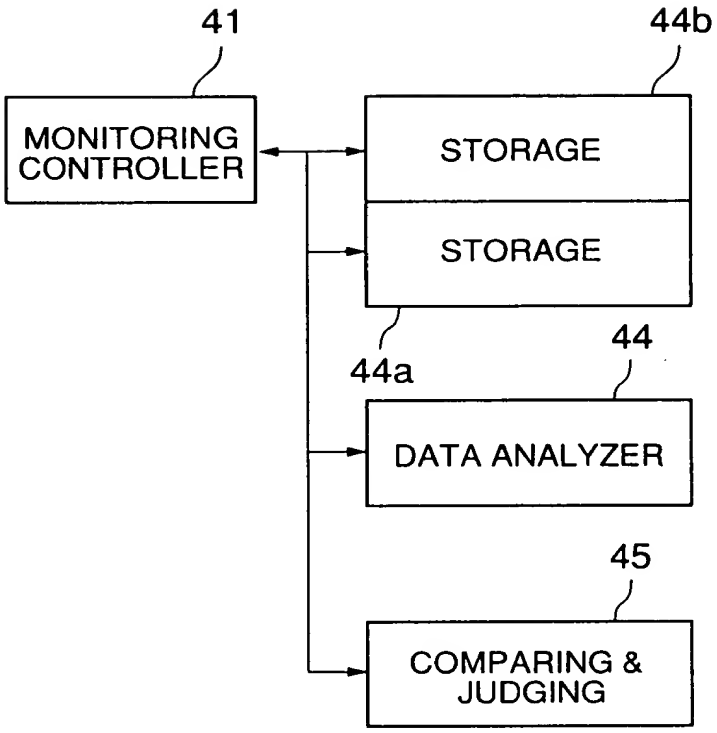

41
44b
MONITORING CONTROLLER
STORAGE
STORAGE
44a
44
DATA ANALYZER
45
COMPARING & JUDGING

FIG.13A

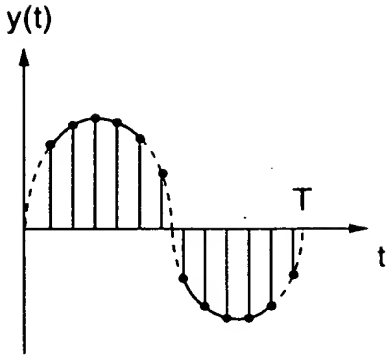


FIG.13B

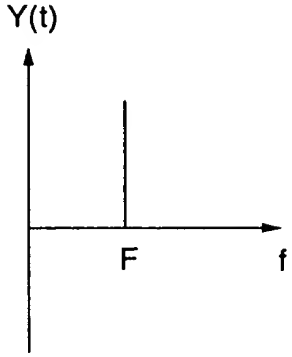


FIG.14A

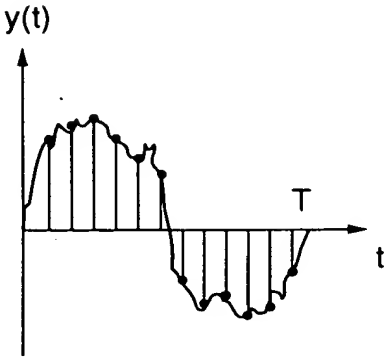


FIG.14B

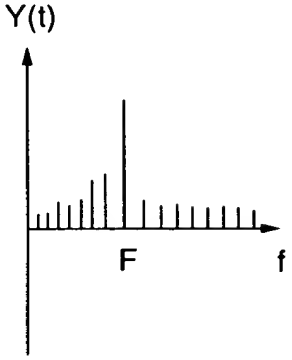


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FIG.15A

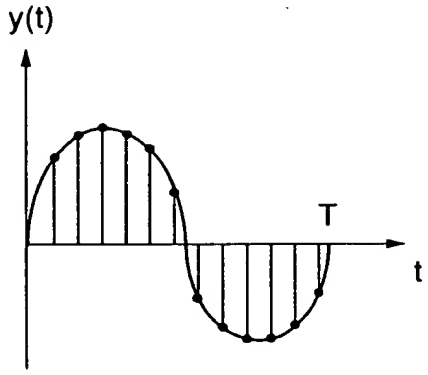


FIG.15B

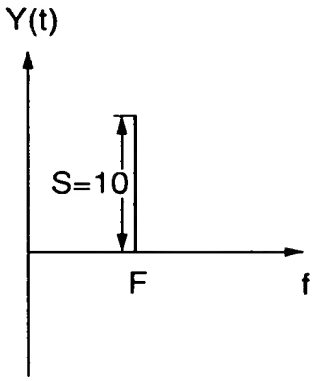


FIG.16A

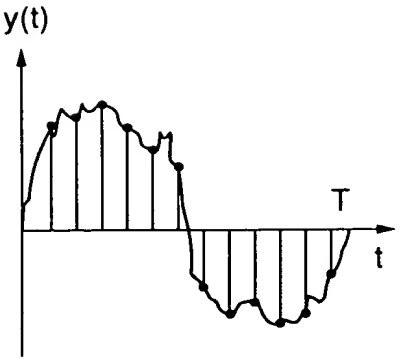


FIG.16B

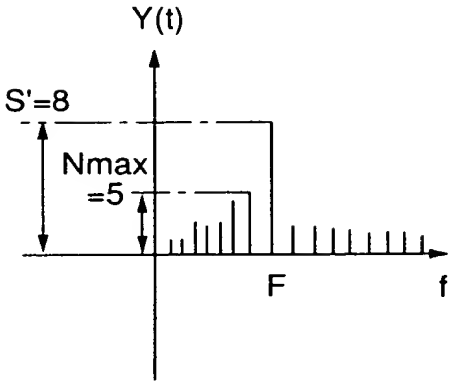


FIG.17

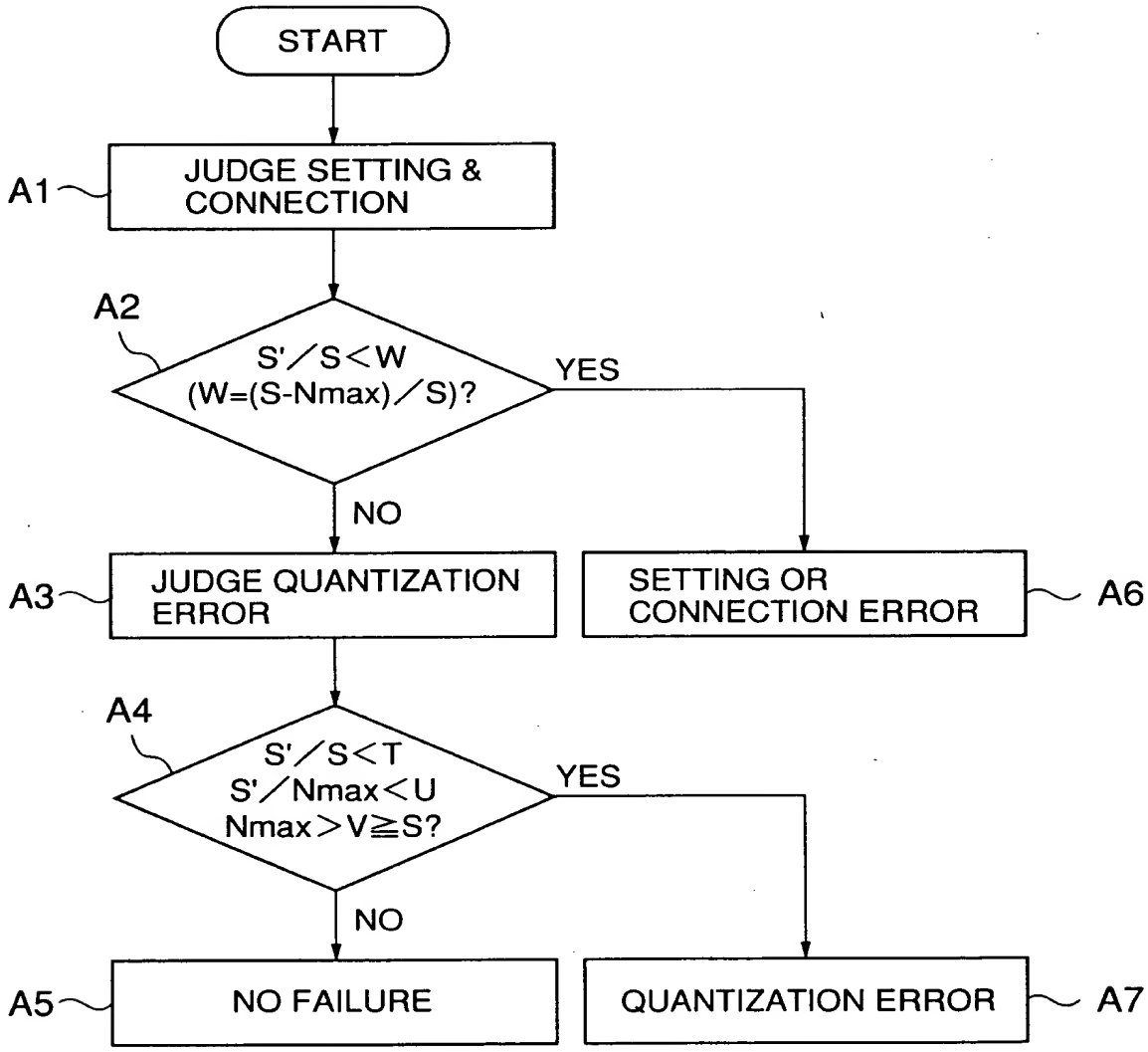

START
A1
JUDGE SETTING & CONNECTION
A2
S'/S<W (W=(S-Nmax)/S)?
YES
NO
A3
JUDGE QUANTIZATION ERROR
SETTING OR CONNECTION ERROR
A6
A4
S'/S<T S'/Nmax<U Nmax>V≧S?
YES
NO
A5
NO FAILURE
QUANTIZATION ERROR
A7

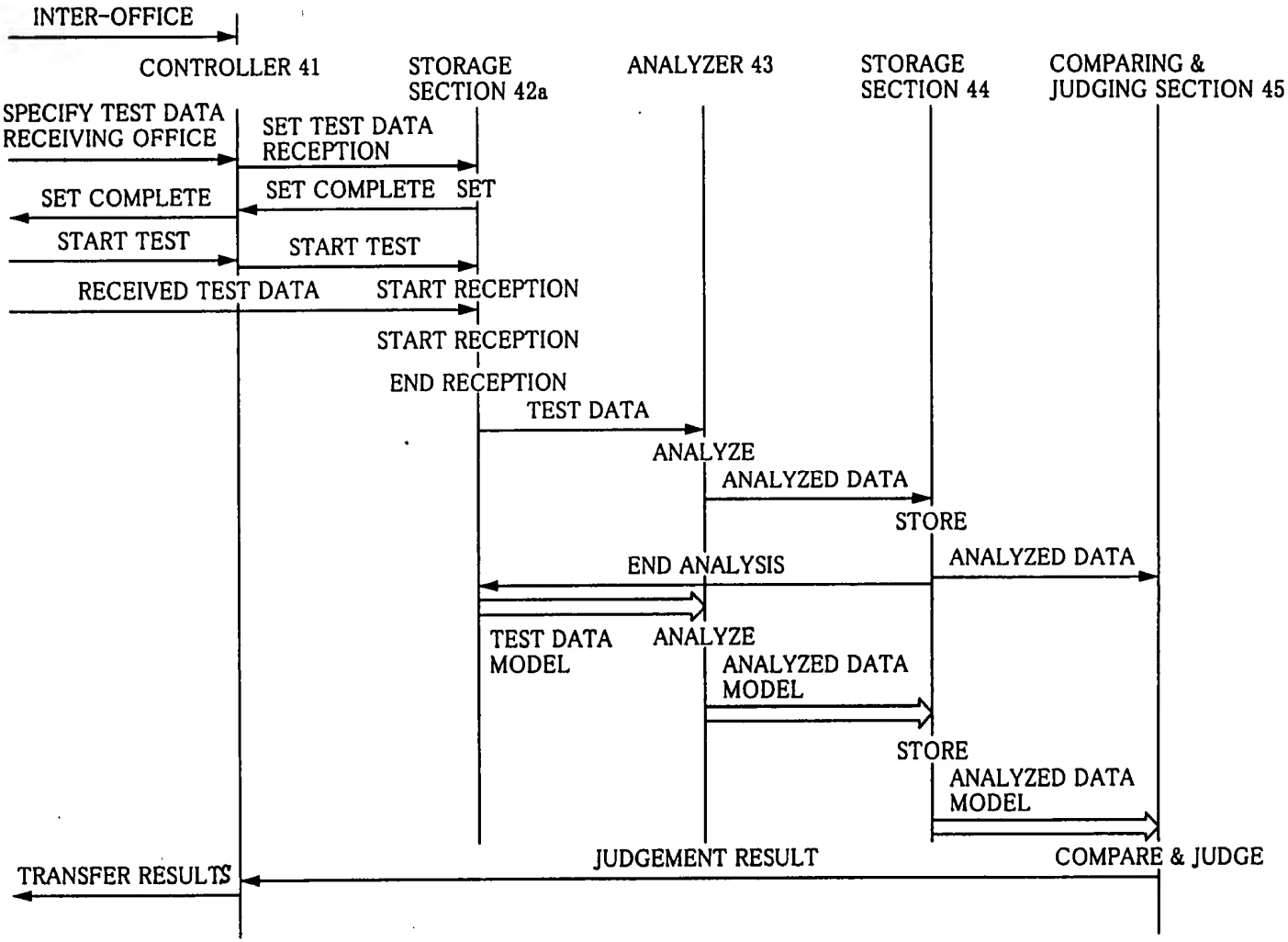
FIG.18A

	S'	Nmax
I	10	2
II-1	5	6
II-2	9	20
III	0	1

FIG.18B

	S'/S	S'/Nmax	Nmax	LINE JUDGEMENT
I	10/10	10/2	2	FAILURE
II-1	5/10	5/6	6	LINE NOISE DUE TO QUANTIZATION ERROR ACCUMULATION
II-2	9/10	9/20	20	LINE NOISE DUE TO QUANTIZATION ERROR ACCUMULATION
III	0/10	0/1	1	SETTING OR CONNECTION ERROR

FIG.19


INTER-OFFICE
CONTROLLER 41
STORAGE SECTION 42a
ANALYZER 43
STORAGE SECTION 44
COMPARING & JUDGING SECTION 45
SPECIFY TEST DATA RECEIVING OFFICE
SET TEST DATA RECEPTION
SET COMPLETE
SET COMPLETE
SET
START TEST
START TEST
RECEIVED TEST DATA
START RECEPTION
START RECEPTION
END RECEPTION
TEST DATA
ANALYZE
ANALYZED DATA
STORE
END ANALYSIS
ANALYZED DATA
TEST DATA MODEL
ANALYZE
ANALYZED DATA MODEL
STORE
ANALYZED DATA MODEL
JUDGEMENT RESULT
COMPARE & JUDGE
TRANSFER RESULTS